

AMENDMENTS TO THE CLAIMS

Claims 1-14 (Canceled)

Al 15. (Withdrawn) A method for installing muntin bars or muntin gratings into a frame, i.e. a spacer frame of an insulated glass window by using the device according to any one of claims 1 to 14, i.e. including a device for realizing an accurate graded positioning of the muntin bars or the muntin grating within the spacer frame and also for an accurate junction provided there between and comprising the steps of

positioning a spacer frame of desired size onto the tie-bars of the mounting frame and
fixing a plastic terminal plug within one end of a muntin bar, i.e. a muntin grating end, so that an end flange of the plug abuts against the inner side of the spacer frame, and

fixing said plug, i.e. the muntin bars or the muntin cross fixed thereto at determined positions to the spacer frame profile by screwing or shooting screws or shooting clamps through the hollow profile of the spacer frame from the outside thereof, respectively, which screws or shooting clamps are provided by means of a screwing apparatus or a shooting device movably supported relative to the spacer frame.

16. (Withdrawn) A method according to claim 15, wherein the screwing apparatus or the shooting device is automatically positioned relative to the spacer frame.

17. (Withdrawn) A method according to claim 15, wherein positioning the muntin comprises the step of

fixing the muntin bar or the muntin grating to the spacer frame by means of a gripping jaw device which is to be adjusted by means of a pneumatic or hydraulic plunger which in turn is fixedly connected to a claw unit and

scanning the surface of the spacer frame supported by the positioning laying-on device for the frame relative to the screwing apparatus or the shooting device.

18. (Withdrawn) A method according to claim 17, further comprising the step of coordinating the scanning operation with the movement of the tie-bars at which the screwing apparatus or the shooting device is arranged, wherein the movement of the tie-bars is especially performed vertically and horizontally with respect to the spacer frame and

triggering the movement of the sliding block of the screwing apparatus or the shooting device against the outer wall of the spacer frame profile after having reached a determined screwing- or shooting position and thus

triggering the screwing or shooting operation.

19. (Withdrawn) A method according to claim 15, further comprising the step of automatically supplying said screws, nails or fixing clamps of the screwing apparatus or the shooting device by means of a air hose connection.

20. (New) A device for installing a muntin into a spacer frame comprising:

a device for positioning a muntin within a spacer frame;

a mounting frame, said mounting frame being inclined with respect to a vertical plane;

tie-bars movably supported by said mounting frame for fixing and machining spacer frames of different sizes together with said muntin; and

an apparatus for arranging and fixing said muntin in the spacer frame.

21. (New) A device according to claim 20, wherein the mounting frame is inclined between 0 and 90 degrees with respect to the vertical plane.

22. (New) A device according to claim 20, wherein the mounting frame comprises two parallel, particularly horizontally arranged fixed frame bodies and two parallel side bodies arranged rectangular to the two frame bodies and connecting the latter ones, wherein the tie-bars in turn comprise two upstanding tie-bar bodies that are supported by the frame bodies and two transverse tie-bar bodies positioned rectangularly to the upstanding tie-bar bodies and supported by the side bodies.

23. (New) A device according to claim 22, wherein at least one of the upstanding tie-bar bodies is movably supported by said mounting frame and wherein at least one of the transverse tie-bar bodies is movably supported by said mounting frame.

24. (New) A device according to claim 20, further comprising a basis frame onto which the mounting frame is arranged, wherein the mounting frame is provided with at least one frame stretcher pivotally connected thereto, so that the mounting frame can be adjusted with respect to the vertical plane.

25. (New) A device according to claim 24, wherein the basis frame comprises footings.

26. (New) A device according to claim 25, wherein the footings are adjustable with respect to their length.

27. (New) A device according to claim 22, wherein the two transverse tie-bar bodies form an upper and a lower tie-bar, respectively, and are arranged above or beneath said tie-bar bodies which are positioned rectangularly thereto and which form a left-hand side and a right-hand side tie-bar, respectively.

28. (New) A device according to claim 22, wherein the tie-bar bodies comprise movably supported fixing devices for enabling the spacer frames having different sizes to be positioned and centered along with the respective muntin bars or said muntin grating.

29. (New) A device according to claim 22, wherein the tie-bar bodies comprise screwing apparatus or shooting device that is movably supported relative to the spacer frame and the muntin and that is adapted to fix the muntin to the spacer frame by using screws, nails or clamps.

30. (New) A device according to claim 29, further comprising a controlling unit, the controlling unit being adapted automatically moved the tie-bar bodies and the movably supported fixing devices and the screwing apparatus or the shooting device can be with

respect to the size of the spacer frame and the position of the respective muntin to be installed into said frame, wherein said movements can be performed simultaneously or successively.

31. (New) A device according to claim 29, wherein the screwing apparatus or the shooting device is provided as an independently working and adjustable unit comprising:

a device for screwing or shooting screws;

a movably carried distance positioning supporting device for the muntin to be screwed or shot; and

a positioning laying-on device for the frame to be able to preposition an end of the muntin relative to the inner surface of the spacer frame profile.

Al
ould
32. (New) A device according to claim 29, wherein the distance positioning supporting device comprises a gripping jaw device for fixedly gripping the muntin in a position in which the muntin is to be screwed or shot with respect to the spacer frame, the gripping jaw device being adapted to grip the muntin during [the] screwing or shooting [process]

33. (New) A device according to claim 29, wherein the distance positioning supporting device also serves for centering the muntin relative to the screwing apparatus or shooting device.
